ASSIGNMENT 8

Textbook Assignment: "Dead Reckoning, Piloting, and Electronic Navigation", chapter 8, pages 8-1 through 8-22.

8-1. What is the primary purpose of dead reckoning (DR) navigation?

1. To check the accuracy of electronic navigation
2. To indicate a reasonable account of the ship's position
3. To navigate in open ocean with no landfall in sight
4. To show where the ship has been

8-2. DR positions are always accurate.

1. True
2. False

8-3. Which of the following is NOT a rule for plotting a DR position?

1. Should be plotted every 1/2 hour
2. Should be plotted every hour
3. Should be plotted when a single LOP is obtained
4. Should be plotted at every speed change.

8-4. Regarding the DR plot, a new course line need not be plotted from each new fix or running fix.

1. True
2. False

8-5. If a ship made good the exact course and speed ordered, and there was no wind or current, dead reckoning would, at times, provide an accurate indication of the ship's position.

1. True
2. False

8-6. When a DR position should be plotted is determined by a total of how many rules?

1. Five
2. Six
3. Seven
4. Four

IN ANSWERING QUESTIONS 8-7 THROUGH 8-10, SELECT THE DEFINITION FROM COLUMN B THAT MATCHES THE TERM IN COLUMN A. RESPONSES ARE USED ONLY ONCE.

A. TERM	B. DEFINITION
8-7. Heading	1. The direction in which a ship is steered
8-8. Course	2. Expressed in degrees measured clockwise from 000° through 360°
8-9. Course line	3. Position of high accuracy
8-10. Fix	4. Course to be steered laid on a chart

8-11. The term "speed" is defined as the ship's ordered speed.

1. True
2. False

8-12. Which of the following information is determined by laying out the ship's course and speed on the chart?

1. DR position
2. Estimated position
3. Ship's heading
4. Ship's speed

8-13. The effects of currents are always taken into account when determining a DR position.

1. True
2. False

8-14. When data such as the direction and speed of the current are applied to a DR position, the resultant position is known as which of the following points?

1. Fix
2. Estimated position
3. Running fix
4. Line of position

8-15. For purposes of DR, how far will a ship travel in a half hour if the ship's speed is 21 knots?

1. 10.5 mi
2. 10.5 nmi
3. 21.0 mi
4. 21.0 nmi

8-16. A nautical mile is equal to how many yards?

1. 1,000
2. 1,500
3. 2,000
4. 2,500

8-17. Which of the following formulas for figuring time, distance, and speed is correct?

1. Time = distance ÷ speed
2. Distance = speed × time
3. Speed = distance ÷ time
4. Each of the above

8-18. If a ship travels 18,800 yards, how many nautical miles has the ship covered?

1. 8.2
2. 8.8
3. 9.4
4. 9.8

8-19. If a ship travels 6.1 nautical miles, how many yards has the ship covered?

1. 12,200
2. 11,800
3. 10,400
4. 6,100

8-20. If a ship travels 87 nautical miles in 6 hours, what speed did the ship make good?

1. 12.7 kn
2. 14.5 kn
3. 15.3 kn
4. 16.7 kn

8-21. The time is 0800, the ship's position is 25°47'N latitude and 47°16'W longitude, and the ship's head is 000°T. What speed is required to reach position 27°22'N latitude and 47°16'W longitude by 1430?

1. 13.0 kn
2. 14.0 kn
3. 14.5 kn
4. 15.5 kn

8-22. How much time will it take a ship to travel 16.0 nautical miles at a speed of 18 knots?

1. 53.5 min
2. 53.0 min
3. 52.0 min
4. 51.0 min

8-23. What distance will a ship travel if the ship's speed is 17.5 knots for 45 minutes?

1. 12.5 nmi
2. 12.7 nmi
3. 13.0 nmi
4. 13.5 nmi

8-24. The 3-minute rule states that a ship's speed in knots is equal to the distance traveled in yards over 3 minutes divided by 100.

1. True
2. False

WHEN ANSWERING QUESTIONS 8-25 AND 8-26, REFER TO THE 3-MINUTE RULE.

8-25. How many yards will a ship travel in 3 minutes at a speed of 7.4 knots?

1. 74
2. 740
3. 7,400
4. 74,000

8-26 Your ship travels 8,400 yards in 12 minutes. What is your ship's speed?

1. 18.0 kn
2. 19.5 kn
3. 20.0 kn
4. 21.0 kn

8-27. What is the function of the nautical slide rule?

1. To simplify time, speed, and distance solutions
2. To plot courses
3. To figure direction

8-28. To use the nautical slide rule, enter two known variables on the appropriate scales and the third value can be obtained.

1. True
2. False

IN ANSWERING QUESTIONS 8-29 THROUGH 8-31, REFER TO FIGURE 8-4 IN YOUR TEXT.

8-29. Which of the following labels should be written above a course line to indicate direction?

1. CØ45°T
2. C 45
3. CØ45M
4. C 45M

8-30. Which of the following labels should be written below a course line to indicate the rate of movement?

1. 12-S
2. SØ12
3. Ø12S
4. S12

8-31. A maximum of how many hours should a DR be layed out from a fix?

1. 1
2. 2
3. 3
4. 4

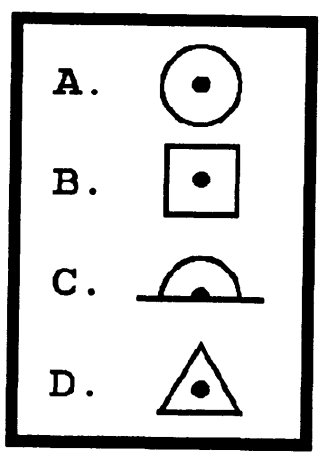

Figure 8-A

IN ANSWERING QUESTIONS 8-32 THROUGH 8-36, REFER TO FIGURE 8-A. FIGURE 8-A PERTAINS TO NAVIGATION PLOTTING SYMBOLS. RESPONSES MAY BE USED MORE THAN ONCE.

8-32. What letter represents an accurate fix obtained by visual means without reference to any previous position?

1. A
2. B
3. C
4. D

8-33. What letter represents a relatively accurate fix obtained by electronic means without reference to any previous position?

1. A
2. B
3. C
4. D

8-34. What letter represents a fix of questionable accuracy that was determined with reference to a previous position and prevailing conditions?

1. A
2. B
3. C
4. D

8-35. What letter represents a relatively accurate fix obtained by means of visual bearings and radar ranges?

1. A
2. B
3. C
4. D

8-36. What letter represents a DR position?

1. A
2. B
3. C
4. D

8-37. When figuring a PIM, how often are points indicated and in what type of time?

1. 2 hr, LMT
2. 4 hr, LMT
3. 4 hr, GMT
4. 8 hr, GMT

8-38. When distance is to be indicated on a plot, the distance may be indicated in which of the following increments?

1. Feet
2. Yards only
3. Miles only
4. Yards or miles

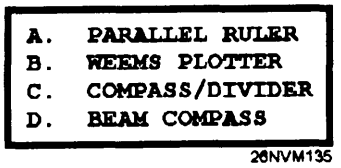

Figure 8-B

IN ANSWERING QUESTIONS 8-39 THROUGH 8-43, REFER TO FIGURE 8-B. FIGURE 8-B PERTAINS TO NAVIGATION PLOTTING EQUIPMENT. RESPONSES MAY BE USED MORE THAN ONCE.

8-39. What instrument(s) is/are used to determine direction from a compass rose?

1. A only
2. B only
3. A and B
4. D

8-40. What instrument(s) is/are used to advance lines of position?

1. A only
2. B only
3. A and B
4. C

8-41 What instrument(s) is/are used to plot greater spreads of distance?

1. A
2. C only
3. D only
4. C and D

8-42 What instrument is used to measure the difference between two given points?

1. A
2. B
3. C
4. D

8-43 What instrument is used to measure circles of arc, and arcs of radar ranges?

1. A
2. B
3. C
4. D

8-44. How is the term "course" best described?

1. The direction to be steered
2. The direction actually steered
3. The course over ground
4. The course made good

8-45. How may courses be designated?

1. True
2. Magnetic
3. Compass
4. Each of the above

8-46. To what does the term "frequency of fix" refer?

1. GPS
2. AN/SRN-19
3. Electronic navigation
4. How often fixes are obtained

8-47. Who determines the fix frequency?

1. Commanding officer
2. Executive officer
3. Leading Quartermaster
4. Navigator

8-48. Which of the following situations refers to emergency plotting?

1. Man overboard
2. Collision
3. Ship's alongside refueling
4. Each of the above

8-49. When MAN OVERBOARD is sounded, within what maximum period of time should the QMOW obtain a fix?

1. 1 min
2. 30 set
3. 3 set
4. 15 set

8-50. When must "piloting" be carried out?

1. When the ship is in open waters
2. Only when the ship is in a harbor
3. When the ship is in coastal waters
4. When frequent or continuous fixes relative to geographical point to high order of accuracy is required

8-51. In general, a total of how many types of navigational observances are used in piloting?

1. One
2. Two
3. Three
4. Four

8-52. Which of the following objects are used in obtaining a fix during piloting?

1. Visual bearings
2. Radar ranges
3. Depth soundings
4. Each of the above

8-53. Which of the following persons is NOT a member of the navigation team?

1. CIC plotter
2. CIC phone taker
3. Plotter
4. Fathometer operator

IN ANSWERING QUESTIONS 8-54 THROUGH 8-57, SELECT THE RESPONSIBILITY FROM COLUMN B THAT MATCHES THE NAVIGATION TEAM POSITION IN COLUMN A. RESPONSES ARE USED ONLY ONCE.

A. POSITION	B. RESPONSIBILITY
8-54. Assistant Navigator	1. Calculates set and drift
8-55. Plotter	2. Supervises navigation team
8-56. Bearing taker	3. Relays bearing to plotter
8-57. Bearing recorder	4. Takes LOP's of objects

8-58. Which of the following definitions best describes a LOP?

1. A line established to fix the ship's position
2. A line only used in piloting to fix the ship's position
3. Any straight line used in establishing the ship's position
4. Any line established by observations or measurements used to fix the ship's location

8-59. As a minimum, how many lines of position must you have to obtain an accurate fix in piloting?

1. One
2. Two
3. Three only
4. Three or more

8-60. When piloting, you must always strive to obtain how many LOPS for an accurate fix?

1. Two only
2. Two or more
3. Three only
4. Three or more

8-61. How many degrees are considered an optimum spread when you use three lines of position to obtain a fix?

1. 60°
2. 90°
3. 120°
4. 150°

8-62. When you shoot visual bearings, how much time should be given between the stand-by and the mark?

1. 5 set
2. 10 set
3. 15 set
4. 30 set

8-63. To more accurately reflect the ship's position at the time of a mark, what bearings should be observed first?

1. Bow
2. Stern
3. Beam
4. Quarter

8-64. Which of the following statements best describes a relative bearing?

1. A bearing relative to true north
2. A bearing relative to magnetic north
3. A bearing relative to the ship's heading
4. A bearing relative to the gyro compass

8-65. Your ship's head is 217°T, variation is 5°W, and you observe an object 25° off the starboard bow. What is the relative bearing?

1. 025°
2. 192°
3. 242°
4. 247°

8-66. Your ship is on course 022°T, and a bearing taker shoots a light 15° relative. What is the true bearing of the light?

1. 007°
2. 015°
3. 022°
4. 037°

8-67. When should you use relative bearings?

1. When transiting a mine field
2. When using the degaussing coils
3. When you have a gyro compass casualty
4. Always

8-68. Before plotting a fix using relative bearings, which of the following actions must be taken first?

1. The helmsman must mark the ship's heading prior to each fix
2. The bearing recorder must start a new column in the bearing log prior to each fix
3. The plotter must figure gyro error

8-69. Which of the following instruments should be used to plot relative bearings?

1. PMP
2. Parallel ruler
3. Weems plotter
4. Three-arm protractor

8-70. When using relative bearings, you should recommend new courses using magnetic headings as indicated by the grease pencil mark on the PMP.

1. True
2. False